

$$A_{meas} = \frac{\left[(N_{RS}^+ + N_{RS}^-) - (N_{WS}^+ + N_{WS}^-) \right]}{\left[(N_{RS}^+ + N_{RS}^-) + (N_{WS}^+ + N_{WS}^-) \right]}$$

$$A_{true} = \frac{\left[\left(\frac{N_{RS}^+}{\varepsilon^+ \alpha^+} + \frac{N_{RS}^-}{\varepsilon^- \alpha^-} \right) - \left(\frac{N_{WS}^+}{\varepsilon^- \alpha^+} + \frac{N_{WS}^-}{\varepsilon^+ \alpha^-} \right) \right]}{\left[\left(\frac{N_{RS}^+}{\varepsilon^+ \alpha^+} + \frac{N_{RS}^-}{\varepsilon^- \alpha^-} \right) + \left(\frac{N_{WS}^+}{\varepsilon^- \alpha^+} + \frac{N_{WS}^-}{\varepsilon^+ \alpha^-} \right) \right]}$$

$$A_{meas} = A_{true} \Leftrightarrow \begin{cases} \varepsilon^+ = \varepsilon^- \\ OR \\ \alpha^+ = \alpha^- \end{cases}$$

otherwise : $A_{meas} \geq A_{true}$

Example :

Assume : $\alpha^+ / \alpha^- \cong 1.02$ as in \bar{D}^0 / D^0

Assume : $A_q = \frac{\varepsilon^+ - \varepsilon^-}{\varepsilon^+ + \varepsilon^-} \cong -2\%$ as for soft pions in D^* decays

Assume numbers as for $B^+ \rightarrow D^0 \pi$ in CDF6964 (Tables 4 and 5)

$A_{meas} = 20\% \equiv D_{meas}$

$A_{true} = 17\% \equiv D_{true}$

$\Delta A = 3\%$ this is a systematic effect $O(\sigma_{stat})!$